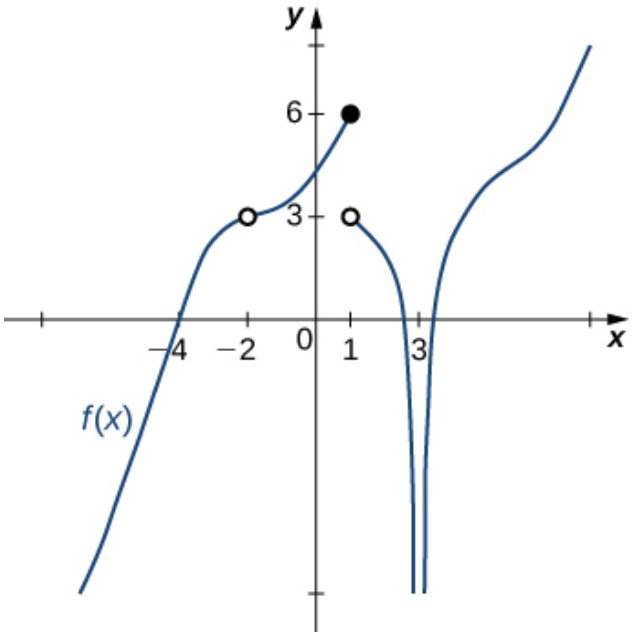
1. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = 3$.



A. $-\infty$

B. -2

C. 1

D. Multiple a make the statement true.

E. No a make the statement true.

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2. Evaluate the limit below, if possible.

$$\lim_{x \to 7} \frac{\sqrt{9x - 47} - 4}{5x - 35}$$

A. 0.125

B. 0.600

C. 0.025

D. ∞

E. None of the above

3. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to -3^-} \frac{3}{(x+3)^7} + 4$$

A. $f(-3)$

B. ∞

C. $-\infty$

D. The limit does not exist

E. None of the above

4. To estimate the one-sided limit of the function below as x approaches 5 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{5}{x} - 1}{x - 5}$$

A. $\{4.9000, 4.9900, 5.0100, 5.1000\}$

B. $\{5.0000, 4.9000, 4.9900, 4.9990\}$

C. $\{4.9000, 4.9900, 4.9990, 4.9999\}$

D. $\{5.0000, 5.1000, 5.0100, 5.0010\}$

E. $\{5.1000, 5.0100, 5.0010, 5.0001\}$

5. Based on the information below, which of the following statements is always true?

As x approaches 4, *$f(x)$ approaches* 3.047.

A. $f(3)$ is close to or exactly 4

B. $f(4) = 3$

C. $f(4)$ is close to or exactly 3

D. $f(3) = 4$

E. None of the above are always true.

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6. Based on the information below, which of the following statements is always true?

$$f(x) \text{ approaches } 13.392 \text{ as } x \text{ approaches } \infty.$$

A. $f(x)$ is close to or exactly ∞ when x is large enough.

B. $f(x)$ is close to or exactly 13.392 when x is large enough.

C. x is undefined when $f(x)$ is large enough.

D. $f(x)$ is undefined when x is large enough.

E. None of the above are always true.

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7. To estimate the one-sided limit of the function below as x approaches 6 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{6}{x} - 1}{x - 6}$$

A. $\{6.0000, 6.1000, 6.0100, 6.0010\}$

B. $\{6.0000, 5.9000, 5.9900, 5.9990\}$

C. $\{6.1000, 6.0100, 6.0010, 6.0001\}$

D. $\{5.9000, 5.9900, 6.0100, 6.1000\}$

E. $\{5.9000, 5.9900, 5.9990, 5.9999\}$

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8. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to -1^-} \frac{2}{(x+1)^3} + 7$$

A. $f(-1)$

B. ∞

C. $-\infty$

D. The limit does not exist

E. None of the above

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9. Evaluate the limit below, if possible.

$$\lim_{x \to 5} \frac{\sqrt{5x-9}-4}{7x-35}$$

A. 0.089

B. 0.125

C. 0.319

D. ∞

E. None of the above

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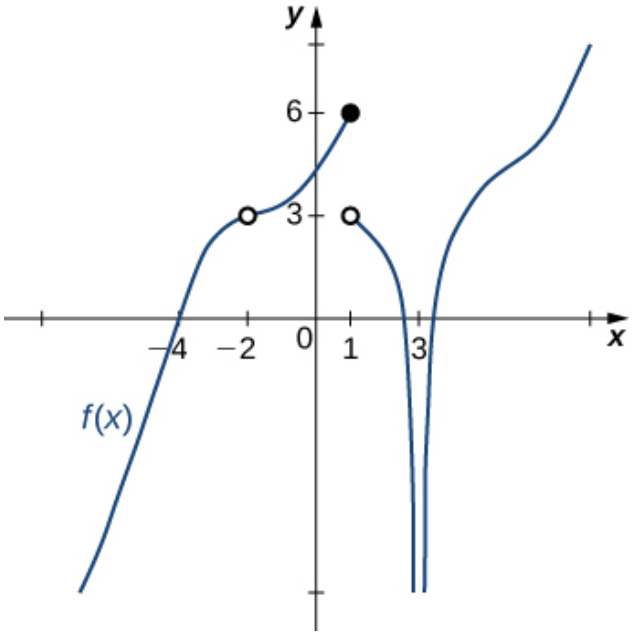
10. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x)$ does not exist.



A. 3

B. 1

C. -2

D. Multiple a make the statement true.

E. No a make the statement true.
